THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte DOUGLAS W. SASS,
STEPHEN T. DUNN and RONALD E. GODLOVE

_____

Appeal No. 95-3720
Application 08/088,146[1]

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ON BRIEF

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Before JERRY SMITH, BARRETT and TORCZON, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

[1] Application for patent filed July 9, 1993.

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-11, 14 and 15. Claims 12 and 13 have been allowed by the examiner.

The invention pertains to an apparatus for cleaning debris from a movable photoreceptor belt of an electronic reprographic image forming apparatus. More particularly, a cleaning roller and a pressure roller are placed to define a nip through which the photoreceptor belt moves. A means is provided to maintain a substantially uniformly distributed contact pressure between the cleaning roller and the photoreceptor belt.

Representative claim 1 is reproduced as follows:

1. An apparatus for cleaning debris from a movable photoreceptor belt having an outer surface and an inner surface, comprising:

a rotatably mounted cleaning roller adapted to remove debris adhering to the outer surface of the photoreceptor belt;

a rotatably mounted pressure roller mounted adjacent to the inner surface of the photoreceptor belt, said cleaning roller and said pressure roller defining a nip through which the photoreceptor belt moves; and

means for continuously maintaining a substantially uniformly distributed contact pressure between said cleaning roller and the outer surface of the photoreceptor belt.

The examiner relies on the following references:

Takizawa et al. (Takizawa)	4,253,761	Mar. 03, 1981
Tomita et al. (Tomita)	4,499,849	Feb. 19, 1985
Usui et al. (Usui)	5,083,169	Jan. 21, 1992
Uno et al. (Uno)	5,111,251	May 05, 1992

Nishise et al. (Nishise) 5,196,893 Mar. 23, 1993

Claims 1, 2, 9 and 11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Usui. Claims 3-8, 10, 14 and 15 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Usui in view of Nishise with respect to claims 3 and 4, Usui in view of Uno with respect to claims 5, 8 and 10, Usui in view of Tomita with respect to claims 6 and 10, Usui in view of Uno and Tomita with respect to claim 7, and Usui in view of Takizawa with respect to claims 14 and 15.

Rather than repeat the arguments of appellants or the examiner, we make reference to the brief and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of anticipation and obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the disclosure of Usui fully meets the invention as recited in claims 1, 2, 9 and 11. We are also of the view that the collective evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 3-8, 10, 14 and 15. Accordingly, we affirm.

We consider first the rejection of claims 1, 2, 9 and 11 as being anticipated by the disclosure of Usui. These claims stand or fall together [brief, page 3], and we will consider claim 1 as the representative claim for this rejection. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.), cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

The examiner has indicated how she has read claim 1 on the Usui disclosure [answer, page 4]. Appellants do not question

that Usui discloses the claimed cleaning roller and pressure roller defining a nip therebetween through which the photoreceptor belt moves. Rather, appellants focus their arguments on the failure of Usui to meet the recitation of the "means for continuously maintaining" as recited in claim 1. Specifically, appellants argue that the cleaning brush of Usui is simply moved between a cleaning and a non-cleaning position, and that such movement does not satisfy the "means for continuously maintaining" element of claim 1.

Appellants interpret the final element of claim 1 as requiring some kind of sensing or control feature [brief, page 4]. They argue that since Usui does not sense the amount of pressure across the cleaning nip, then the Usui actuator does not "continuously and uniformly adjust contact nip pressure on the photoreceptor belt" [Id.]. We note that claim 1 does not recite that the means must be able to "adjust" the pressure, but only that the means be able to "maintain" a pressure. It is the position of the examiner and we agree that the cleaning position of the Usui device forces the cleaning roller and pressure roller together so as to maintain a continuous and uniform pressure across the cleaning nip. An uncontrollable pressure applying means such as a mechanical clamp can maintain a continuous and

uniform pressure where it is applied without any additional sensing or control means. We are of the view that the mechanical force applied by lever 42 on the arm 38 in Usui is sufficient to overcome any opposite forces so that the cleaning roller is maintained against the pressure roller with a continuous and uniform distribution of the pressure.

Claim 1 does not recite that the pressure is maintained "resiliently" so that arguments to that effect are not persuasive. Finally, appellants' arguments regarding the inability of the Usui device to move in a side to side or other self-adjusting manner are not commensurate in scope with the invention as recited in claim 1. Claim 1 does not require that such movements be possible in order to maintain a continuous and uniform distribution of pressure. The rollers 34 and 36 in Usui are cylindrical in shape and extend along the full width of the photoreceptor belt. Therefore, like the clamp noted above, the cleaning roller is forced against the pressure roller to maintain a continuous and uniform pressure across the entire width of the cleaning nip.

For the reasons just discussed, we are of the view that the invention as broadly recited in claim 1 is fully met by the

disclosure of Usui. Therefore, we sustain the rejection of claims 1, 2, 9 and 11 under 35 U.S.C. § 102(b).

We now consider the rejection of claims 3 and 4 as being unpatentable over the teachings of Usui and Nishise. Claims 3 and 4 stand or fall together [brief, page 3]. The examiner has explained why it would have been obvious to the artisan to move either one of the cleaning roller or the pressure roller so as to maintain the pressure at the cleaning nip [answer, pages 5-6].

Appellants' initial argument with respect to this rejection is that "Nishise does not adjust or compensate so as to continuously uniformly distribute contact pressure at the blade/belt nip" so that it suffers the same deficiency as Usui [brief, page 6]. As we noted above, however, this limitation incorporated from claim 1 is fully met by the disclosure of Usui so this argument is without merit.

Appellants' next argument with respect to this rejection is that the teachings of Usui and Nishise would not be combined by the artisan because they are designed for inconsistent purposes [brief, page 8]. The propriety of combining two prior art teachings must be considered in the context of the scope of the invention and the teachings to be combined. The examiner has combined the teachings of Usui and Nishise for the sole purpose

of showing that it was known to move either the cleaning roller or the pressure roller in a photoreceptor belt cleaning system. Thus, Nishise is cited for the sole purpose of demonstrating that the artisan would have found it obvious within the meaning of 35 U.S.C. § 103 to move the pressure roller in Usui rather than the cleaning roller. This is the scope of the invention as recited in claims 3 and 4, and the teachings of this scope are properly combinable from Usui and Nishise. Accordingly, we sustain the rejection of claims 3 and 4 under 35 U.S.C. § 103.

We now consider the rejection of claims 5, 8 and 10 as being unpatentable over the teachings of Usui and Uno. These claims stand or fall together [brief, page 3]. The examiner has explained why it would have been obvious to the artisan to use a resilient means to urge the cleaning roller towards the belt so as to maintain the pressure at the cleaning nip [answer, page 6].

Appellants' initial argument with respect to this rejection, as with the previous rejection, is that the secondary reference (Uno) does not suggest the maintaining means of claim 1. As we noted above, since Usui is considerd to meet this limitation of claim 1, this particular argument is without merit.

Appellants also point out individual differences between each of the applied references and the claimed invention. This

individual consideration of the prior art references is improper. With respect to the invention as broadly recited in claim 5, the only question is whether it would have been obvious to the artisan to use a resilient means such as a spring in Usui for maintaining the cleaning roller against the pressure roller. Uno teaches the broad concept of using a spring to bias movement in a photoreceptor belt cleaner, and we agree with the examiner that the broad recitation of such a means would have been obvious to the artisan in view of the applied prior art. Accordingly, we sustain the rejection of claims 5, 8 and 10 under 35 U.S.C. § 103.

We now consider the rejection of claims 6 and 10 as being unpatentable over the teachings of Usui and Tomita. These claims stand or fall together [brief, page 3]. The examiner has explained why it would have been obvious to the artisan to use a resilient means to urge the pressure roller towards the belt so as to maintain the pressure at the cleaning nip [answer, page 7].

Appellants argue that Tomita does not teach use of a pressure roller, but rather, a bar-like counter member [brief, page 12]. We are not persuaded by this argument because Usui is relied on to teach a cleaning roller and a pressure roller having a cleaning nip therebetween. Tomita is cited for the sole

purpose of teaching that it was known to the artisan that either the pressure roller or the cleaning roller could be moved in order to maintain the pressure therebetween. For purposes of this broad teaching, Tomita is properly cited by the examiner.

Appellants also make the same arguments we have considered above with respect to the last element of claim 1. As noted above, we agree with the examiner that the device of Usui fully meets the maintaining means as recited in claim 1. Accordingly, we sustain the rejection of claims 6 and 10 under 35 U.S.C. § 103.

We now consider the rejection of claim 7 as being unpatentable over the teachings of Usui, Uno and Tomita. The examiner has explained why it would have been obvious to the artisan to use a resilient means to urge both the pressure roller towards the belt and the cleaning roller towards the belt so as to maintain the pressure at the cleaning nip [answer, pages 7-8].

Claim 7 basically recites the features separately recited in claims 5 and 6. We have previously determined that Uno suggests the feature recited in claim 5 and Tomita suggests the feature recited in claim 6. Therefore, the combination of prior art references suggests the invention of claim 7 for the reasons discussed above.

Finally, we consider the rejection of claims 14 and 15 as being unpatentable over the teachings of Usui and Takizawa. These claims stand or fall together [brief, page 3]. The examiner has explained why it would have been obvious to the artisan to include a cleaning bar and a means for deflecting the cleaning bar towards the cleaning roller [answer, pages 8-9].

Appellants argue that the Takizawa device cleans a drum rather than a belt [brief, page 15]. We are not persuaded by this distinction. Usui teaches a cleaning roller for cleaning a photoreceptor belt as discussed above. Usui also teaches the use of a flicker bar (or cleaner bar) 46 for dislodging waste matter adhering to the cleaning roller. With respect to the invention having the scope of claim 14, the only question is whether the teachings of Takizawa would have suggested to the artisan the broad idea of deflecting the Usui cleaning bar towards the cleaning roller. For reasons indicated by the examiner, we agree that the collective teachings of Usui and Takizawa would have suggested the invention of claim 14. Accordingly, we sustain the rejection of claims 14 and 15 under 35 U.S.C. § 103.

In summary, we have sustained each of the examiner's rejections of the claims. Therefore, the decision of the examiner rejecting claims 1-11, 14 and 15 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

JERRY SMITH Administrative Patent Judge	)
LEE E. BARRETT Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
RICHARD TORCZON Administrative Patent Judge	)

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